

Figure 1.



Compound	$\lambda_{\text{abs}}$ (nm) <sup>b</sup>	$\varepsilon_{\text{max}}$ (M <sup>-1</sup> cm <sup>-1</sup> ) <sub>1</sub>	$\lambda_{\text{em}}$ (nm) <sup>c</sup>	$\Delta E$ (eV) <sup>d</sup>	$E_g$ (eV) <sup>e</sup>	$\tau$ (ns)	$\Phi^f$ (10 <sup>-2</sup> )	$E_{\text{pa}}^1$ V	$E_{\text{pa}}^2$ (V)	$E_{\text{pa}}^3$ V	$E_{\text{pa}}^1$ V	$E_{\text{pc}}^2$ (V)
1	350	21 850	425	3.2	3.1	0.9	2.3	1.43	1.21	-	-1.17	-1.63
2	305		372	3.7	3.0	13.5	3.8	0.23	0.59	0.83	-1.44	-
3	440	25 489	530	2.5	2.3	6.2	0.04	0.24	1.02	1.85	-1.12	-1.84
4	470	31 530	610	2.2	2.1	2.9	0.33	0.96	1.23	1.73	-1.09	-1.85
5	492		542	2.3	1.9	5.8	0.42	0.98	1.57	-	-1.12	-1.88
6 <sup>g</sup>	413	-	479	2.7	2.5	0.9	0.33	0.82	1.12	-	-	-
7	423	-		2.5	2.4	-	-	0.84	1.20	-	-	-

<sup>a</sup>Scan rate 1V/sec, 0.1 M Bu<sub>4</sub>NPF<sub>6</sub>, glassy carbon working electrode, Ag/AgCl (sat'd) reference electrode, Pt-wire electrode vs. Fe/Fe<sup>2+</sup>; <sup>b</sup>Absorption; <sup>c</sup>Emission; <sup>d</sup>Refers to absolute HOMO-LUMO difference; <sup>e</sup>Spectroscopic band-gap; <sup>f</sup>Relative to bithiophene; <sup>g</sup>Literature values<sup>11</sup>

Figure 3.

Compound	Aryl-Aryl <sup>a</sup>	C=X <sup>b</sup>	=C-Aryl	Plane Angle <sup>c</sup>
2	1.443 Å	1.281 Å	1.439 Å	170°
Analogue <sup>d</sup>	1.479 Å	1.334 Å	1.614 Å	180°

<sup>a</sup>bisthiophene distance; <sup>b</sup>X=N for 2 and C for the analogue; <sup>c</sup>Refers to the aryl-C=X dihedral angle; <sup>d</sup>From Zobel for bisthiophene and thiophene alkene values.<sup>12</sup>

Figure 4.

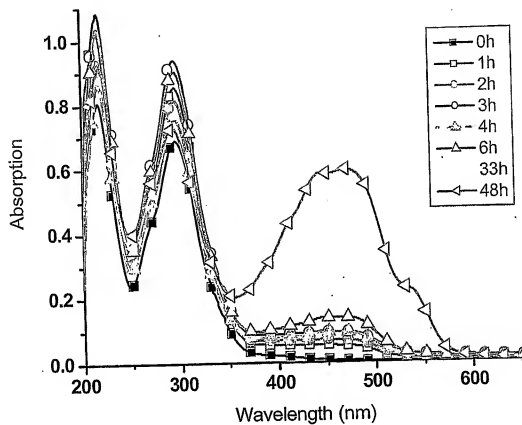


Figure 5

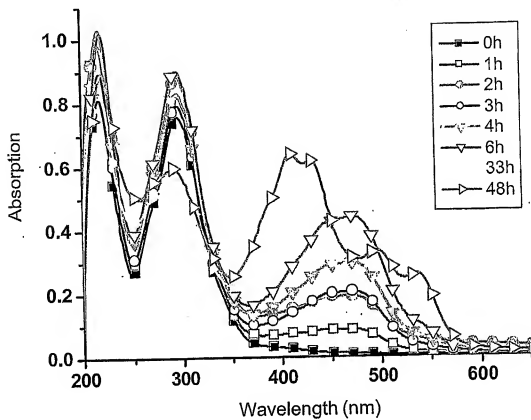


Figure 6.

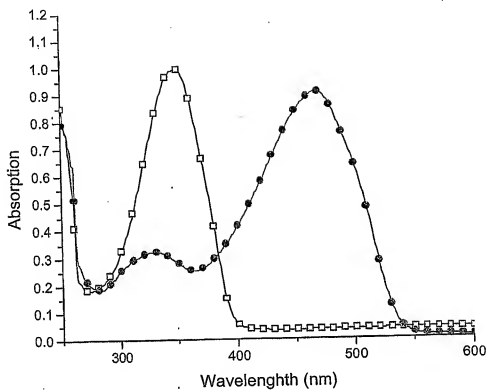


Figure 7.

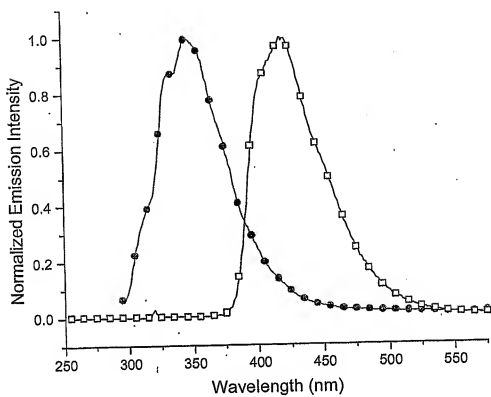


Figure 8.

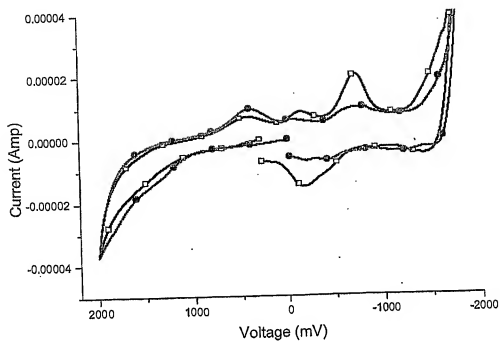


Figure 9.

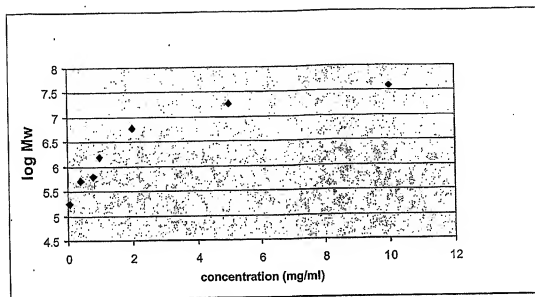


Figure 10.